APPENDIX A

STANISLAUS RIVER PRELIMINARY DESIGNS

Stanislaus River
River Mile 52
Lover's Leap

This site has a lot of potential for salmon spawning riffle. It has good slope and width and good access from the north bank. There is plenty of riparian vegetation to provide shade, cover, and food. A resting pool exists immediately downstream from the riffle.

The current substrate is large cobble, laden with silt. Restoration will involve excavating the channel and replacing the substrate with washed, graded spawning gravel. Three control structures will be used to maintain grade.

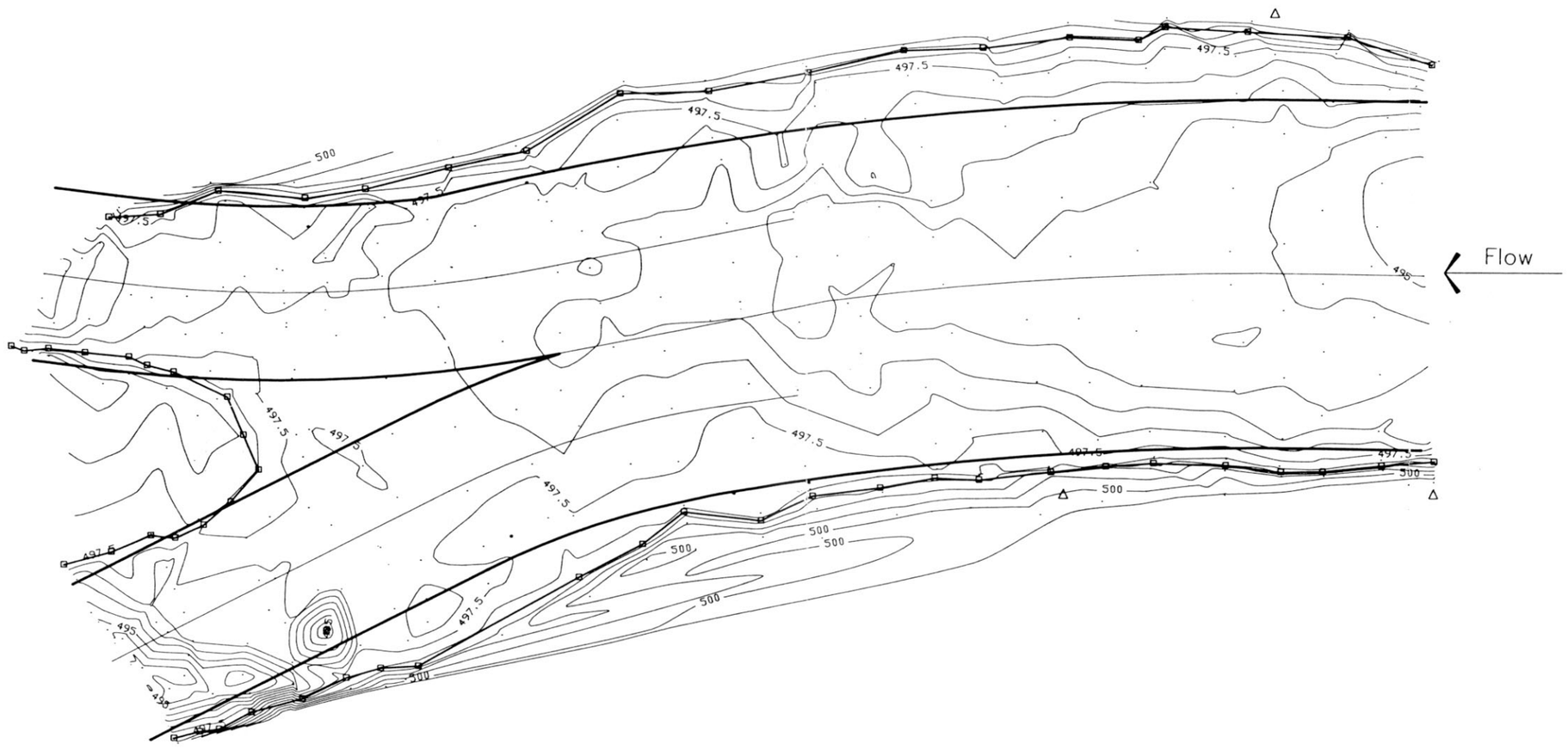
The restored site will be approximately 100 feet wide and 400 feet long. Approximately 4,500 square feet of spawning gravel would be available after restoration.

The restoration is roughly estimated to cost $85,000 and take three weeks to construct. No significant permitting issues are seen at this time.

Stanislaus River, Lover's Leap.
View looking downstream.

Stanislaus River, Mile 52.0, Lover's Leap.
View looking upstream.

Stanislaus River, Mile 52.0, Lover's Leap.
Existing substrate.



Stanislaus River Mile 52.0, Preliminary Design

Stanislaus River
Mile 51.2
Graupner

This site was used historically by spawning salmon. The channel is split. The substrate in the side channel is good for spawning purposes, but it has become choked with vegetation and flow velocities are too slow for spawning use by salmon. A pool-riffle-pool-riffle sequence is proposed for the side channel. The main channel has a good drop for constructing a riffle and an existing large pool for resting.

The site has good access from the north bank. There is plenty of riparian vegetation to provide shade, cover, and food. The island separating the two channels will be preserved for its habitat and hydrologic value.

Restoration will involve cleaning out the side channel, excavating the main channel, and replacing the substrate with washed, graded spawning gravel. Seven control structures will be used to maintain grade -- two in the side channel and five in the main channel.

The restored side channel will be approximately 30 feet wide and 800 feet long. The restored main channel will be approximately 70 feet wide and 300 feet long. Approximately 4,000 square yards of spawning gravel will be available after restoration.

The restoration is roughly estimated to cost $81,000 and take four weeks to construct. No significant permitting issues are seen at this time.

Stanislaus River, Mile 51.2, Graupner.
View from main channel pool toward side channel.

Stanislaus River, Mile 51.2, Graupner.
View toward main channel from upstream end.

Stanislaus River, Mile 51.2, Graupner.
View toward down channel from upstream end.

Stanislaus River Mile 51.2, Preliminary Design

DWR/SJD Jan. 1994 | Prepared by K. Faulkenberry | Drawn by K. Winden

Stanislaus River
Mile 48.8-48.9
Honolulu Bar

The reach of river from Mile 48.5 to Mile 49.7 (shown below) contains a variety of potential restoration projects and diversity of habitat. The reach has good drop to create the velocities necessary for spawning riffles. Some areas need the substrate replaced, some need widening, and some need the side channel excluded from the main flow.

Two riffles at Mile 48.8 and 48.9 were surveyed. Restoration of these riffles will involve excavating the channel and replacing the substrate with washed, graded spawning gravel. The sites will be designed and constructed as one job. Two control structures will be used to maintain grade.

The site has good slope and width, and good access from the north bank. There is plenty of riparian vegetation to provide shade, cover and food.

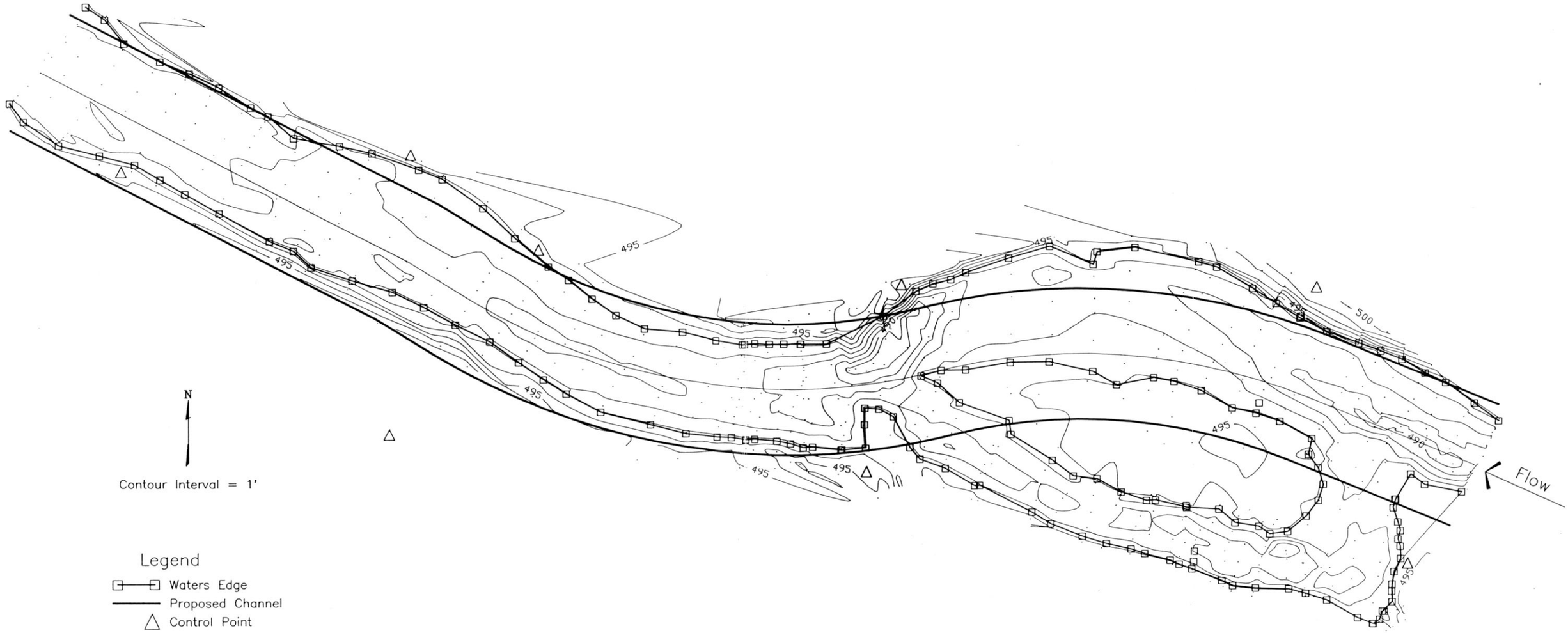
The current substrate is large cobble, laden with silt. The restored site will be approximately 80 feet wide and 950 feet long. Approximately 8,400 square yards of spawning gravel will be available after restoration.

The restoration is roughly estimated to cost $140,000 and take four weeks to construct. No significant permitting issues are seen at this time.

Stanislaus River, Mile 48.8, Honolulu Bar.
View looking downstream.

Stanislaus River, Mile 48.9, Honolulu Bar.
Bottom of Mile 48.9 looking upstream.

Stanislaus River, Mile 48.9, Honolulu Bar.
Left side channel looking upstream.



Stanislaus River Mile 48.8 & 48.9, Preliminary Design

DWR/SJD
Jan. 1994

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